

# The Herald

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## BUSINESS

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### GPS software aims at steering port cranes

By Tom Peters / Business Reporter



Researchers at University of New Brunswick in Fredericton have created new software that taps into the global positioning system to help steer large gantry cranes at busy seaports.

Using GPS for this task isn't new but Richard Langley who, with Donghyun Kim, developed the software, says this guidance system may be the best available.

"It has a higher performance in terms of reliability," Mr. Langley said in an interview.

"It can operate with less optimum visibility to the satellites, which frequently happens in industrial areas like container ports. . . . We believe the software that we developed for this system has the one of the highest, if not the highest, reliability factors and lots of safety features were built in to basically shut down the system if (it) feels, for some unforeseen reason, it is not performing at the level it should."

The GPS system replaces a standard mechanism often used: cameras mounted on the sides of cranes. The cameras rely on lines painted on the ground to keep the crane from running into stationary containers.

The new system uses a GPS base station at the port and a pair of GPS receivers on the crane. The software can determine the crane's location using the base and crane receivers and the GPS satellites. Its accuracy is within a few centimetres, which is important in congested areas.

"The problem with painted lines is that they have to be perfectly maintained," Mr. Kim said in a release. "The nice thing about this new software is that it does not rely on actual painted lines. It digitally maps the port and uses GPS to control the crane's actions."

Mr. Langley and Mr. Kim, of UNB's department of geodesy and geomatics engineering, were under contract to Seoho Electric Company, Ltd. of South Korea to develop the software.

"They sought us out based on our expertise," Mr. Langley said. "We brought a certain amount of experience to the table and a certain amount of intellectual property and we sort of built on that for this particular application. We have been involved in GPS for over 20 years with all kinds of applications but this is the first time we got involved in a machine-control application."

At the Port of Halifax, crane operators at the Ceres terminal in Fairview Cove and at Halterm in the south end follow painted lines but without the aid of cameras.

Gerald Murphy, president of the Halifax longshoremen's union whose members operate gantry cranes, said Wednesday GPS systems aren't needed in the port. He said the cranes, which weigh about 120,000 kilograms, move slowly and have excellent steering systems.

The new guidance software was field tested at Kwangyang, South Korea earlier this year.

Mr. Langley says it's his understanding that Seoho, a company involved in automatic crane control, will market the new guidance system.

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